

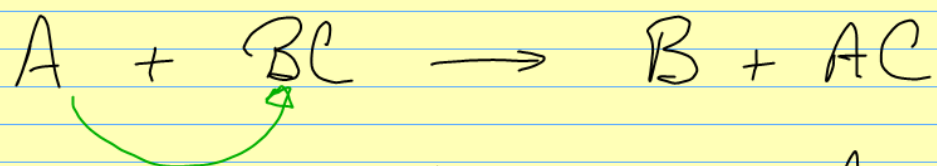
The Activity Series.

May 30, 2011.

An activity series is a list of elements arranged with the most reactive elements at the top of the list and the least reactive elements at the bottom. The activity series for metals, shown on page 386, ranks the metals in the metals in this way. Metals near the top of the list such as lithium and potassium are easily

oxidized, while those near the bottom are difficult to oxidize.

Recall that a single displacement reaction involves an element reacting with a compound to form a new element and a new compound. These types of reactions are always redox reactions.

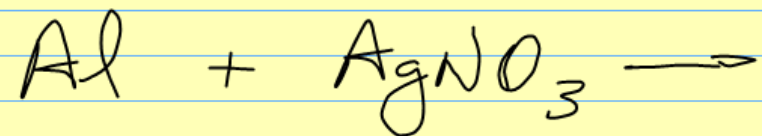


For this reaction to happen A must be more reactive (easier to oxidize) than B.

So we can use the activity series to predict when a single displacement reaction will or will not occur.

If element A is higher on the activity series than B, the reaction will occur. Otherwise there is no reaction, indicated by N.R.

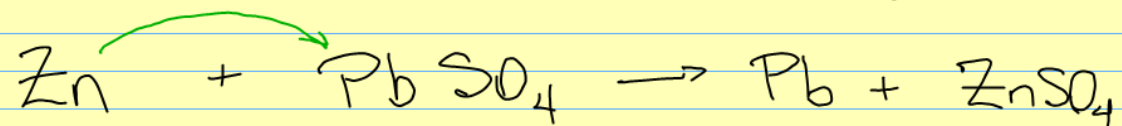
Example #1: Predict if a reaction will occur when aluminum foil is placed in silver nitrate solution.



- compare the position of Al and Ag on the activity series.
- Al is higher in reactivity.

\therefore a reaction occurs.

Example #2: Predict if a reaction will happen when zinc metal is placed in a solution of lead (II) sulphate. If a reaction occurs predict the products and write a balanced chemical equation.



- Zn is above Pb, so it reacts.

P 388 P 1 P 389 Q 3.